

July 11, 2016

Meagan E. Ormand
Golder Associates Inc.
2108 W. Laburnum Ave.
Suite 200
Richmond, VA 23227

RE: Project: BREMO MONTHLY PROCESS
Pace Project No.: 92304468

Dear Meagan Ormand:

Enclosed are the analytical results for sample(s) received by the laboratory on July 08, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Nicole Gasiorowski
nicole.gasiorowski@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

July 11, 2016
Page 2

cc: Ron DiFrancesco, Golder Associates Inc.
Martha Smith, Golder Associates Inc.
Mike Williams, Golder Associates Inc



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

CERTIFICATIONS

Project: BREMO MONTHLY PROCESS

Pace Project No.: 92304468

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: BREMO MONTHLY PROCESS

Pace Project No.: 92304468

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92304468001	T2-160707-2330-S3	EPA 200.7	CKJ	8	PASI-O

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: BREMO MONTHLY PROCESS

Pace Project No.: 92304468

Method: EPA 200.7

Description: 200.7 MET ICP

Client: Golder_Dominion_Bremo

Date: July 11, 2016

General Information:

1 sample was analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: BREMO MONTHLY PROCESS

Pace Project No.: 92304468

Sample: T2-160707-2330-S3		Lab ID: 92304468001	Collected: 07/07/16 23:30	Received: 07/08/16 14:34	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7						
Aluminum	380	ug/L	100	1	07/09/16 13:39	07/09/16 18:11	7429-90-5	
Barium	411	ug/L	10.0	1	07/09/16 13:39	07/09/16 18:11	7440-39-3	
Beryllium	ND	ug/L	1.0	1	07/09/16 13:39	07/09/16 18:11	7440-41-7	
Boron	694	ug/L	50.0	1	07/09/16 13:39	07/09/16 18:11	7440-42-8	
Cobalt	ND	ug/L	10.0	1	07/09/16 13:39	07/09/16 18:11	7440-48-4	
Iron	ND	ug/L	250	1	07/09/16 13:39	07/09/16 18:11	7439-89-6	
Molybdenum	95.8	ug/L	10.0	1	07/09/16 13:39	07/09/16 18:11	7439-98-7	
Vanadium	25.8	ug/L	10.0	1	07/09/16 13:39	07/09/16 18:11	7440-62-2	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: BREMO MONTHLY PROCESS

Pace Project No.: 92304468

QC Batch:	MPRP/31532	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 MET
Associated Lab Samples:	92304468001		

METHOD BLANK: 1632084 Matrix: Water
Associated Lab Samples: 92304468001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	100	07/09/16 17:51	
Barium	ug/L	ND	10.0	07/09/16 17:51	
Beryllium	ug/L	ND	1.0	07/09/16 17:51	
Boron	ug/L	ND	50.0	07/09/16 17:51	
Cobalt	ug/L	ND	10.0	07/09/16 17:51	
Iron	ug/L	ND	250	07/09/16 17:51	
Molybdenum	ug/L	ND	10.0	07/09/16 17:51	
Vanadium	ug/L	ND	10.0	07/09/16 17:51	

LABORATORY CONTROL SAMPLE: 1632085

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	2500	2400	96	85-115	
Barium	ug/L	250	249	100	85-115	
Beryllium	ug/L	25	25.3	101	85-115	
Boron	ug/L	2500	2460	98	85-115	
Cobalt	ug/L	250	258	103	85-115	
Iron	ug/L	2500	2360	95	85-115	
Molybdenum	ug/L	250	253	101	85-115	
Vanadium	ug/L	250	250	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1632086 1632087

Parameter	Units	92304468001		MS		MSD		MS		MSD		MS		MSD		% Rec		% Rec		% Rec		% Rec		Limits		RPD		Qual	
		Result	Conc.	Spike Conc.	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.
Aluminum	ug/L	380	2500	2500	2840	2880	98	100	70-130	2																			
Barium	ug/L	411	250	250	664	671	101	104	70-130	1																			
Beryllium	ug/L	ND	25	25	25.7	25.9	102	103	70-130	1																			
Boron	ug/L	694	2500	2500	3190	3220	100	101	70-130	1																			
Cobalt	ug/L	ND	250	250	259	260	104	104	70-130	1																			
Iron	ug/L	ND	2500	2500	2440	2480	95	97	70-130	2																			
Molybdenum	ug/L	95.8	250	250	352	355	103	104	70-130	1																			
Vanadium	ug/L	25.8	250	250	281	283	102	103	70-130	1																			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALIFIERS

Project: BREMO MONTHLY PROCESS

Pace Project No.: 92304468

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE


Project: BREMO MONTHLY PROCESS

Pace Project No.: 92304468

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92304468001	T2-160707-2330-S3	EPA 200.7	MPRP/31532	EPA 200.7	ICP/18767

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: May 24, 2016 Page 1 of 2
	Document No.: F-MEC-CS-009-Rev.03	Issuing Authority: Pace Mechanicsville Quality Office

Sample Condition Upon Receipt

Client Name:

Bremo / Golder

Project #

WO# : 92304468



Courier: ☐ Commercial ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☒ Pace ☐ Other: _____

Custody Seal Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No

Date/Initials Person Examining Contents: 7-8-16

RSB

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: _____

Thermometer: ☒ RMD001 ☐ _____ Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Correction Factor: 0.0°C Cooler Temp Corrected (°C): 1.6

Biological Tissue Frozen? ☐ Yes ☐ No ☐ N/A

Temp should be above freezing to 6°C

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

			Comments/Discrepancy:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Short Hold Time Analysis (<72 hr.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Samples Field Filtered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.	Note if sediment is visible in the dissolved container
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Includes Date/Time/ID/Analysis Matrix: <u>WW</u>			
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	HNO3 pH<2 HCl pH<2 H2SO4 pH<2 NaOH pH>12 NaOH/ZnOAc pH>9
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC,LLHg	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Samples checked for dechlorination?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Headspace in VOA Vials (>5-6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____
Comments/Sample Discrepancy: _____

Project Manager SCURF Review: NMG

Date: 7/11/16

Project Manager SRF Review: NMG

Date: 7/11/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers)



www.paceanals.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:

Company:	Goldier Associates
Address:	2108 W Laburnum Ave, Ste 200 Richmond, VA 23227
Email To:	Mormand@golder.com
Phone:	804-551-0129 Fax: 804-358-2900
Requested Due Date/TAT:	24 HOUR

Section B Required Project Information:

Report To:	Mormand@golder.com
Copy To:	Martha_Smith@golder.com
Purchase Order No.:	Ron_Difrancesco@golder.com
Project Name:	Bremo Monthly Compliance
Project Number:	1520-347 2207 200

Section C Invoice Information:

Attention:	Meagan Ormand
Company Name:	Goldier Associates
Address:	galapdataentry_invoices@golder.com
Price Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

Page:	1	of	1
-------	---	----	---

REGULATORY AGENCY

<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER
Site Location	VA	
STATE:		

Requested Analysis Filtered (Y/N)

200.7 - Al, Ba, Be, B, Co	
200.7 - Fe, Mo, V	
ASTM4282 - Free Cyanid	

Residual Chlorine (Y/N)	
92304468 Pace Project No./ Lab I.D.	

1	7/2-160707-2330-53	WW	C	7/7/16	23:30	1435																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															</
---	--------------------	----	---	--------	-------	------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

ADDITIONAL COMMENTS

All analyses to be performed under Goldier-Pace MSA dated 12/19/2006

RELINQUISHED BY / AFFILIATION

DATE

TIME

ACCEPTED BY / AFFILIATION

DATE

TIME

SAMPLE CONDITIONS

7/8/16	0615	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			
7/8/16	1435	Goldier	7/8/16	0615																			

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Pace Analytical Services
Suite 100
9800 Kincey Ave
Huntersville NC 28078

Report Date: July 11, 2016

Project: Bremo

Submittal Date: 07/09/2016
Group Number: 1680884
PO Number: NMG 15738
State of Sample Origin: VA

Client Sample Description

t2-160707-2330-S3 Water Sample

Lancaster Labs
(LL) #
8466904

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>.

Electronic Copy To Pace Analytical Services

Attn: Nicole Gasiorowski

Respectfully Submitted,



Bonnie Stadelmann
Senior Project Manager

(312) 590-3133

Sample Description: t2-160707-2330-S3 Water Sample
92304468001
92304468

LL Sample # WW 8466904
LL Group # 1680884
Account # 10945

Project Name: Bremono

Collected: 07/07/2016 23:30

Pace Analytical Services

Submitted: 07/09/2016 09:45

Suite 100

Reported: 07/11/2016 16:43

9800 Kinsey Ave

Huntersville NC 28078

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
12941	Free Cyanide	OIA-1677-09 n.a.	mg/l < 10.0	mg/l 10.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12941	Free Cyanide	OIA-1677-09	1	16193941101A	07/11/2016 12:02	Joseph E McKenzie	1

Quality Control Summary

Client Name: Pace Analytical Services
Reported: 07/11/2016 16:43

Group Number: 1680884

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ
	mg/l	mg/l
Batch number: 16193941101A	Sample number(s): 8466904	
Free Cyanide	< 10.0	10.0

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/l	mg/l	mg/l	mg/l					
Batch number: 16193941101A	Sample number(s): 8466904								
Free Cyanide	0.0400	0.0382			96		86-132		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 16193941101A	Sample number(s): 8466904 UNSPK: P459502									
Free Cyanide	< 0.0060	0.0200	0.0126	0.0200	0.0127	63*	63*	86-132	1	3

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Chain of Custody

10945 1680884 866904



Workorder: 92304468

Workorder Name: BREMO MONTHLY PROCESS

Results Requested By: 7/11/2016

Report / Invoice To		Subcontract To		Requested Analysis																							
Nicole Gasiorowski Pace Analytical Charlotte 9800 Kinsey Ave. Suite 100 Huntersville, NC 28078 Phone (704)875-9092 Email: nicole.gasiorowski@pacelabs.com		Sample Administration Eurofins Lancaster Laboratories 2425 New Holland Pike Lancaster, PA 17601 P.O. NMG 15738 Env.																									
State of Sample Origin: VA				Preserved Containers										Free Cyanide OIA -1672				LAB USE ONLY									
Item	Sample ID	Collect Date/Time	Lab ID	Matrix	NaOH																						
1	12-160707-2330-S3	7/7/2016 23:30	92304468001	Water	2																						
2																											
3																											
4																											
5																											
Transfers				Released By		Date/Time		Received By		Date/Time		Comments															
1				Rachel Burruss		7-8-16 1830																					
2																											
3								Karye		7/9/16 0845																	
Cooler Temperature on Receipt				33 °C		Custody Seal		Y or N		Received on Ice		Y or N		Samples Intact Y or N													

Client: Pace**Delivery and Receipt Information**

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>07/09/2016 9:45</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace \geq 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

*Unpacked by Karen Diem (3060) at 11:31 on 07/09/2016***Samples Chilled Details***Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.*

<u>Cooler #</u>	<u>Thermometer ID</u>	<u>Corrected Temp</u>	<u>Therm. Type</u>	<u>Ice Type</u>	<u>Ice Present?</u>	<u>Ice Container</u>	<u>Elevated Temp?</u>
1	32170023	3.0	IR	Wet	Y	Loose/Bag	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.